DOCUMENT RESUME

ED 433 764 HE 032 314

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TITLE Ladders to Success: Enhancing Transfer from Technical Associate in Science Degrees to Baccalaureates. AIR 1999 Annual Forum Paper.
PUB DATE 1999-06-00
NOTE 17p.; Paper presented at the Annual Forum of the Association for Institutional Research (39th, Seattle, WA, May 30-June 3, 1999).
PUB TYPE Reports - Research (143) -- Speeches/Meeting Papers (150)
EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Articulation (Education); *Associate Degrees; Bachelors Degrees; College Transfer Students; Community Colleges; Compliance (Legal); Higher Education; Models; State Standards; *Transfer Policy; *Transfer Programs
IDENTIFIERS *AIR Forum; *Florida

ABSTRACT

This paper describes the collaborative activities which have developed since 1998 Florida legislation that required stronger articulation between Associate in Science (AS) programs at state community colleges and baccalaureate programs at universities. Three major models of AS to baccalaureate articulation are evaluated: (1) a statewide career ladder model; (2) an AS to specialized baccalaureate model; and (3) an AS to Bachelor's in Applied Technology (BAT) model. Issues addressed in formulating guidelines for transforming the AS degree into a transfer degree included: the need to preserve existing "go-to-work" objectives of the AS programs; the need to ensure that regional and specialized accreditation are not jeopardized; and whether all or only some AS programs should be designed for transfer. The career ladder model is applied to seven pilot disciplines: nursing, radiological sciences, computer science, business (general), accounting, hospitality management, and engineering technology. Development of articulation agreements by faculty discipline committees is reported and a draft agreement for electrical engineering technology is offered as an example. Standards for maintaining accreditation are also addressed. General standards for the second model, the capstone model, are also summarized but will primarily be at the discretion of individual universities. (DB)

Ladders to Success: Enhancing Transfer from Technical Associate in Science Degrees to Baccalaureates

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Paper presented at the 39th Annual Forum of the Association for Institutional Research
June 1, 1999

for Management Research, Policy Analysis, and Planning

This paper was presented at the Thirty-Ninth Annual Forum of the Association for Institutional Research held in Seattle, Washington, May 30-June 3, 1999.
This paper was reviewed by the AIR Forum Publications Committee and was judged to be of high quality and of interest to others concerned with the research of higher education. It has therefore been selected to be included in the ERIC Collection of AIR Forum Papers.

Dolores Vura
Editor
Air Forum Publications

Ladders to Success: Enhancing Transfer from Technical Associate in Science Degrees to Baccalaureates

Abstract

The development of the workforce, a perennial interest of societies throughout history, has recently been an arena of heightened activity. Florida, a state with historically strong articulation between Associate of Arts (AA) and baccalaureate degree programs, but no statewide articulation of technical, and hitherto terminal, Associate in Science (AS) programs to baccalaureates, passed legislation in 1998 requiring the articulation of the latter between the state community colleges and universities. The paper will discuss the collaborative activities between sectors generated by the legislation, resulting development of articulation frameworks and models, and issues and challenges faced in the design of seamless transfer.

Ladders to Success: Enhancing Transfer from Technical Associate in Science Degrees to Baccalaureates

INTRODUCTION

The development of the workforce is a matter of perennial interest in most societies. The past few years have brought a heightened interest in this issue and many states have passed legislation aimed at workforce development in a variety of forms. Florida has a history of successful articulation between the Associate of Arts (AA) degrees originating in the state community college system and the bachelor's degrees offered by the State University System. The statewide Articulation Agreement, first authored in 1957, was enacted in 1971, and is codified in state law. However, no statewide articulation of technical (and heretofore terminal) Associate in Science (AS) to baccalaureate degree programs exists, although some articulation has occurred among individual institutions for many years in disciplines such as Nursing. Florida passed legislation in 1998, requiring the articulation of AS to baccalaureate programs in the state community colleges and universities. The intent was to encourage and assist individuals to progress in their careers within technical fields and broaden their capabilities. Implementing the legislative mandate began with formulating models for seamless articulation, examining the existing programs, establishing guidelines for the articulated programs, and establishing faculty discipline committees to negotiate statewide articulation agreements in specific disciplines. The paper will discuss the methodology used to develop articulation agreements, identify issues and challenges which need resolution, and recommend actions for others who may wish to pursue similar articulation.

In 1998, The Florida Postsecondary Education Planning Commission (PEPC) conducted a survey of member states of the State Higher Education Executive Officers (SHEEO) regarding articulation policies and procedures. The survey focused on AA transfer and found that 15 states among the survey respondents indicated that statewide articulation agreements were in place.

The survey revealed that Florida's 2+2 system based on AA articulation was among the most successful in the country. Sixty percent of Florida's qualified high school graduates enroll in the community colleges, which functions as the main entry point into higher education in Florida. In comparison, the survey average was 52% (based on 18 states). Even more interesting, from the viewpoint of articulation into the state universities, was the fact that fully 50% of upper division students in Florida's state universities are transfers from community colleges. Of the three states which offered comparative data, Hawaii's transfer students accounted for 28% of the upper division population, Kentucky's transfers accounted for 15% and Pennsylvania's transfers accounted for 8% of the upper division (PEPC, 1999).

Based on the success of the AA transfer agreement in Florida, legislators wished to expand articulation to AS degrees as well. This was a more challenging task, because the AS degrees in Florida were designed as terminal degrees to prepare students for various (usually technical) occupations, not as transfer degrees. During the course of the project, staff conversations with other state systems revealed that AS degrees which did transfer in other states were designed as transfer degrees, with more science courses than the AA degree. For example, Pennsylvania's Academic Passport provides for transfer of both AA and AS degrees but they must contain a minimum of 30 hours in liberal arts. Up to 45 credits may apply toward general education at the university, and the remaining credits may be applied toward the major or free electives. The technical degrees, similar to Florida's current AS, were usually designated as Associate in Applied Science (A.A.S.) degrees, and rarely transferred into universities. Where technical courses may transfer into universities, they are limited to a few credit hours, and generally count as electives in the baccalaureate degree. For example, in the Slippery Rock Bachelor's of Applied Science, some technical courses may be transferred on a course by course basis (rather than guarantee of a pre-specified number of courses). Alabama allows for transfer of technical business courses, as well as general studies courses, but it is limited to approximately 15 credit hours of business courses. The City University of New York (CUNY) provides for transfer of some A.A.S. programs, such as engineering technology programs, into related baccalaureate degree programs. The primary transfer arrangement is for the A.A.S.

engineering technology programs in to a Bachelor of Technology (B.Tech.) at New York City Technical College. The extent of transfer varies from very limited transfer of course credits from the A.A.S. to full transfer of credits from the A.A.S. to the B.Tech. In the case of full transfer, 64 credits of A.A.S. coursework would transfer into the B.Tech, which would only require 64 additional credit hours to obtain the bachelor's degree (CUNY, 1997). This is the type of transfer which Florida envisioned, for a wider array of disciplines, and for Bachelor of Science (BS) and Bachelor of Arts (BA) degrees rather than B.Tech degrees.

DATA SOURCES

Quantitative data from the state data bases were utilized, primarily to identify the AS disciplines from which the largest numbers of students were already enrolling in baccalaureate programs, and the baccalaureate disciplines which appeared most attractive to such students, even without the benefit of articulated agreements. However, the focus will be on the development of frameworks for articulation, issues and challenges. The main source of information was statewide discussions among the sectors (community colleges and universities) at both administrative and faculty levels.

METHODOLOGY/APPROACH

Historically, in Florida, AS programs have been considered terminal degrees not designed for articulation into baccalaureate programs. The primary purpose of these two-year programs has been to prepare students for employment in technical fields. The general education requirements, faculty qualifications, and nature of courses often differed significantly from those of baccalaureate programs. AS graduates who chose to pursue baccalaureate degrees faced the prospect of not having most of their AS credits recognized for the bachelor's degrees, resulting in a prolonged path toward a bachelor's degree. The challenge issued by the legislation was to craft models for articulation which would preserve the "go-to-work" focus of the AS programs while also enabling seamless transfer into baccalaureate programs.

The articulation being considered differs from that in many other states in two important aspects. While many other states offer AS degrees which transfer into baccalaureate programs, most of these AS programs are different in their focus in that they are designed primarily for transfer, instead of employment in technical fields immediately upon graduation. In addition, the articulation in most states is accomplished by local agreements rather than a guarantee of statewide transfer.

In order to formulate an AS to baccalaureate articulation agreement as mandated by the state legislature, a statewide committee consisting of administrators (presidents, vice presidents and deans) from several community colleges and universities was established. The committee considered three models for articulation:

1. A statewide career ladder model,
2. AS to specialized baccalaureate model, and
3. AS to Bachelor's in Applied Technology (BAT) model.

Each of these models will be discussed, with emphasis on the career ladder model, which is the most complex model, articulating statewide between specific AS programs and their counterpart baccalaureate programs in the same discipline, such AS Nursing programs to BS in Nursing programs.

RESULTS

Major Issues and Challenges

It became evident early in the process that the AS programs currently operating in the state may need to be reconfigured to facilitate articulation. On the one hand, the "go-to-work" nature of the AS programs needed to be preserved. On the other hand, the integrity and regional and specialized accreditation of the baccalaureate degrees needed to be preserved, while providing a useful education within a relatively low number of credit hours. Fulfilling these important but diverse requirements in a framework that is acceptable to the sectors was the challenge, which needed to be addressed by the statewide Committee.

In the early stages of formulating guidelines, for the transformation of the AS degree into a transfer degree, and creating flexibility within the bachelor's degrees for the full acceptance of AS degrees, the ABAC grappled with the following major issues and challenges:

➢ Can an articulated agreement preserve the "go-to-work" objectives of the AS programs while preserving the integrity of the baccalaureate programs?

➢ Can AS to baccalaureate articulation provide programs within approximately128 semester hours from start to finish, providing students with both an AS degree in a technical area which would lead to immediate employment, and a bachelor's degree which could lead to greater career mobility?

➢ What safeguards need to be provided to ensure that regional and specialized accreditation are not jeopardized?

➢ What minimal faculty qualifications must be ensured for all programs?

➢ What agreements should be made regarding general education courses (the core lower level curriculum in disciplines ranging from arts, humanities and social science to science and mathematics, to assure breadth of education)?

➢ Which disciplines are more likely candidates for establishing successful AS to bachelor's articulation agreements?

➢ Will all AS degrees be potential candidates for transfer? If not, how will the AS transfer degree be distinguished from AS degrees not designed for transfer?

It is relevant to note that in 1995, the Florida legislature limited most baccalaureate degrees to 120 semester hours, and mandated statewide common prerequisites. The AS articulation would need to be designed against this backdrop of already tightly constrained baccalaureate degrees with little room for electives in many disciplines. It became evident early in the discussions that the articulated baccalaureates could not be accomplished in 120 hours, since the AS degrees themselves required 64 or more credit hours and this would not leave sufficient opportunity for fulfilling the remaining requirements of the baccalaureate degree. The goal was to design agreements wherein both the AS and the baccalaureate could be accomplished within 124 to 128 credit hours.

Development of Framework

The initial work of the statewide committee involved setting forth general guidelines upon which the transfer agreements would be built. The existing AS degrees in the state community colleges had several features which made efficient transfer difficult. For one thing, the general education core of the AS degree consisted of 15 semester hours of coursework which often did not meet the requirements of baccalaureate level general education courses. In addition, the baccalaureate degree required 36 hours of general education, not 15. For another, current AS students are not required to meet cut-off scores for mathematics on the College Placement Test (CPT) as the AA transfer degree students are required to. A third general obstacle was that some faculty teaching AS degree courses did not possess the credentials required of baccalaureate level instruction by the regional accrediting association, the Southern Association of Colleges and Schools (SACS). In order to overcome these obstacles, the following guidelines were initially established for all new AS degree programs which would meet the transfer requirements:

1. General education courses taken for the AS degree may consist only of courses which meet the requirements for transfer, including the appropriate credentials of faculty members.

2. All students in the new AS degree program must pass the mathematics test in the CPT.

These two criteria would define the new transferable AS degree. That is, any AS program which met the above criteria would qualify to be designated as a transferable AS degree.

What would such AS degrees transfer to? Two possible avenues were identified:

1. The Career Ladder Model
2. The Capstone Model.

Career Ladder Model

The career ladder model consisted of statewide articulation between AS programs and baccalaureate programs in the same or similar disciplines; e.g. an AS in Nursing to a BS in Nursing. This would be the more tightly articulated model and involved a few select disciplines which were identified by data as being a) the disciplines in which many AS students were

already transferring, without benefit of an articulation agreement; b) disciplines whose graduates were in demand in the workforce, and/or c) disciplines in which articulation seemed most viable. The seven pilot disciplines thus identified were:

1. Nursing
2. Radiological Sciences
3. Computer Science
4. Business, general
5. Accounting
6. Hospitality Management
7. Engineering Technology

It was evident that the articulation agreements in each of these disciplines must be the work of faculty in these disciplines, for only they had the knowledge necessary to work out the details of a statewide agreement. Also, it would preserve faculty control of the curriculum. Because the time allotted for accomplishing articulation was very limited (articulation was to be worked out by Fall 1998) faculty committees, consisting of a representative of every state community college AS program and every state university baccalaureate program in the above disciplines, were convened for a two-day workshop. During this time, the faculty committees were charged with the task of forging articulation agreements in their discipline which met the guidelines set forth by the ABAC, and which enabled students to complete both an AS and baccalaureate degree as efficiently as possible. Consistent with the issues already identified, each faculty committee needed to address the following:

1. Preserve the "go-to-work" nature of the AS degree; i.e. the new AS degree should prepare students to qualify for a technical job immediately upon graduation and prepare them for efficient transfer into a baccalaureate degree.

2. Determine how to split up the 36 hours of general education between the AS and the baccalaureate degree; i.e. should each degree include 18 hours of general education, or should it be a different split?

3. Determine how to meet the regional and specialized (if applicable) accreditation criteria of the baccalaureate degree.

4. Identify minimum faculty credentials required of AS faculty in order to make the courses eligible for transfer.

5. Determine how the statewide common prerequisites for the baccalaureate degree would be split between the AS and baccalaureate curriculum; i.e. should all the prerequisites be part of the AS curriculum, or should some be part of the university curriculum?

6. Determine if AS coursework should transfer for course by course credit or as a block of courses; determine if validation of competencies should be required at the baccalaureate level for providing upper level credit for some of the transferred courses.

7. Determine if bridge courses were necessary for the transition from AS degree to baccalaureate; i.e. if the AS degree provided some but not all the competencies required to pick up at the upper level baccalaureate, could the deficiencies be most efficiently made up in a bridge course?

8. Accomplish the articulation within the prescribed number of AS degree semester hours (generally 64 hours, but could be higher for specific disciplines) and within a total of about 128 hours for the baccalaureate, including the AS degree hours.

Lively discussions occurred within the discipline committees for two days. At the end of two days some were ready to declare victory with signed articulation agreements; others were close to agreement but needed more time to work out the details; still others determined it was simply not possible to articulate and preserve the nature of both the "go-to-work" AS degree and the baccalaureate degree. Hospitality Management baccalaureates housed in Colleges of Business, and Accounting degrees fell into the last category. It was simply not possible to preserve the technical courses in the AS degree and have the baccalaureate meet AACSB accreditation criteria. One Hospitality Management program which was housed in its own school, rather than within Business (and not subject to AACSB criteria) was able to carve out an articulation agreement. So did the programs in Nursing, Radiological Sciences, Engineering Technology. The general Business and Computer Science disciplines had serious concerns and these are still under discussion at the universities.

An example of the draft agreements crafted by the faculty discipline committees follows:

Associate in Science Electrical Engineering Technology to a Baccalaureate in Electrical

Engineering Technology.

a) The articulated associate in science in Electrical Engineering Technology shall include:

i. Twenty-two (22) credit hours of general education including the following designated courses: MAC 1105, PHY X048/X048L or PHY X053C, six hours in Communication, six hours in Social Science, and three hours in Humanities; and

ii. 38 hours in technical core courses; and

iii. Eight hours in technical elective courses.

b) The baccalaureate in Electrical Engineering Technology shall include:

i. The remaining 13 hours of general education including PHY X049/X049L or PHY X054C (4), MAC X311 or equivalent; and other general education courses as determined by the institutional requirements; and

ii. Four hours in MAC X312 or equivalent; and

iii. 48 hours of engineering technology core courses.

c) The total hours for the AS to BS articulated degree shall be no more than 134.

Accreditation Criteria

Along with preserving the integrity of both the AS and baccalaureate degree programs, one of the primary concerns was the ability of articulated programs to continue to meet regional and specialized accreditation criteria of the baccalaureate degrees.

In regard to regional accreditation, the pertinent SACS criteria included:

1) At least 25% of the baccalaureate degree must be taken at the senior institution granting the degree.

2) Faculty should possess a minimum of a master's degree with 18 hours in the teaching discipline, or a master's degree with a specialization in the teaching discipline.

The second of these two criteria was the most challenging. A survey conducted by the Statewide Common Course Numbering System (SCNS) of Florida in early 1999 revealed that many more faculty in the AS programs lacked the SACS credentials than had been previously assumed. Although the faculty teaching general education courses could meet the criteria, the

technical courses within the AS degree were taught by faculty who met the criteria for AS programs, but some of whom did not meet the criteria for baccalaureate level programs.

In regard to specialized accreditation, The Business AACSB criteria for baccalaureate programs proved the most challenging. The two most pertinent criteria were:

1. At least 50% of the baccalaureate degree must consist of credit hours taken outside of business courses.

2. At least 50% of the business credit hours must be taken at the institution granting the degree.

In the fields of Accounting, and Hospitality Management housed in Colleges of Business, it became evident that if the technical courses in the AS degree were counted, it was not possible to provide the necessary coursework required to provide a baccalaureate degree and still meet the "50% courses outside of business" criterion. As attractive as such an articulation would be to students, it was not possible to deliver the technical and professional courses required for both degrees and still stay within a reasonable number of total credit hours (i.e. about 128 semester hours).

Some of these issues will continue to be debated statewide in the coming months.

Capstone Model

This model, unlike the statewide career ladder model, will be at the discretion of the individual universities. A university may choose to offer a capstone degree, in which case all the AS programs statewide which meet the requirements of that particular degree, may transfer. Because of the individual university discretion, this model is likely to be less complex to develop and administer, although it lacks the benefit to the students of articulating to any state university, which the career ladder model possesses.

The basic criteria for an AS degree to qualify to articulate into a capstone baccalaureate are :

1) The degree must include 18 hours of transferable general education courses.

2) The students must have successfully completed the College Placement Test (CPT) as

part of the requirements in the AS degree.

The primary purpose of the AS degree, which is to prepare students to enter the workforce with technical skills immediately upon graduation, must still be maintained. The baccalaureate portion of the degree will "sit on top of" the AS degree. The capstone degree may be a generic degree, perhaps providing management and supervisory skills, into which any AS degree may articulate. The capstone degree could also be tailored to a discipline area, such as the health field. One of the universities in the system already offers such a degree. It is a BS in Health Science, for which the only prerequisite is completion of an AS degree in any health-related discipline, such as respiratory therapy, phlebotomy, medical technology or occupational therapy. The extent to which the capstone degree has few or no prerequisites other than the AS degree, will facilitate transfer from numerous AS degree programs. The capstone degrees, like the career ladder degrees, must be accomplished in about 128 credit hours, including the credit hours for the AS degree. The issue of faculty credentials in the AS to meet regional accreditation criteria for transfer also must be addressed.

Bachelor of Applied Technology (BAT)

The BAT was the third model considered by the AS to BA/BS Articulation Committee. The BAT would differ from the other models in that no foreign language would be required for admission into the program, and the College Level Academic Skills Test (generally required at the end of the sophomore year) would become a graduation requirement rather than a requirement to enter the upper division. However, by the end of the negotiations it was determined that this model was in fact a variation of the capstone model and could be offered by individual universities should they choose to do so, with the approval of the Board of Regents. Therefore only two models--the career ladder model and the capstone model, were forwarded as recommendations from the Committee. Thus far no universities have indicated an interest in offering a BAT.

CONCLUSION/IMPLICATIONS

The greatest benefit of the AS to BA/BS articulation is that it caters to students who may wish to become employed after two years of college, in a relatively high-paying technical field, and also enhance their future career development and mobility by pursuing a baccalaureate degree in an efficient manner. As a result of the career ladder articulation agreements, students will be able to obtain both an AS degree and a baccalaureate degree in considerably fewer credit hours than were necessary previously, thus saving time for the students and money for both the students and the State. The capstone models will also provide a similar avenue, although not in the same specialization from AS to baccalaureate degree. Important considerations in designing such articulation agreements include:

- Ensuring that the technical courses within the AS degree are of college level (rather than vocational school level).
- Establishing appropriate credentials of faculty teaching in the AS, which would further guarantee that the courses were taught at a level consistent with baccalaureate education.
- Preserving the integrity of both the AS degree (in preparing an individual for a technical occupation) and the bachelor's degree.
- Preserving the regional accreditation of the four-year institutions and any relevant specialized accreditation requirements.
- Limiting the total number of credit hours required to a reasonable level so that the agreement would in fact provide the student an efficient pathway to both an early technical job, through the AS degree, and a bachelor's degree.

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